

Day 2: Setting up your Environment

June 30TH, 2021

Course Logistics

Course Format

Presentations	3 days a week. Monday, Wednesday, Friday Between 2 and 4 pm
Labs	take home exercises due every Thursday night
Office hours	every Thursday from 2-3pm
Projects	starting second week of the bootcamp
Website	msoma.org

- Read the course material on the website before every presentation
- Practice! Practice! Practice!

Tools

Google Meets: A platform for video calls

- Can ask questions via voice or text-chat
- Option to ask questions individually in a “breakout” room
- Where presentations, office hours, Lab/Project parties will happen

M-Soma website

- All the course content will be there (textbook)

Various pieces of software (like Python, Text Editor, and Terminal)

- Make sure you install these. Instructions on the course website

Course Overview

Every part of the course will center around a theme of Computer Science

- Learn the fundamentals of programming
- Become comfortable with Python



Introduction

Control

Functions

Objects

Setting up your Environment

Creating a GitHub Account

GitHub is a platform used to 'store' **code**

1. Create your account at www.github.com
2. Fill out this **google form**: tinyurl.com/msoma-github
3. Create a **GitHub repository**. This is where you will store your code

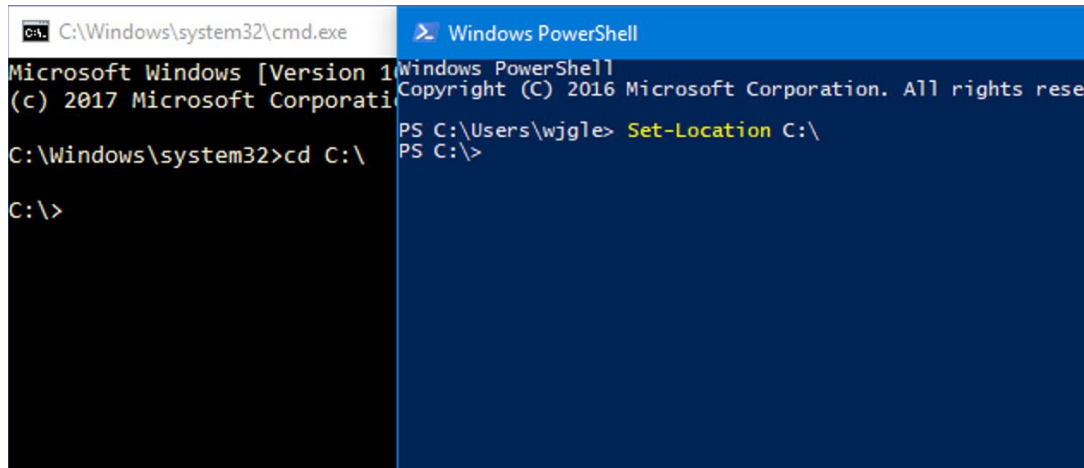


Git is software used to send files between your computer and your Github repositories

Terminal

This is a program that allows you to interact with your computer by entering **commands**

1. On Windows search for: **Powershell**
2. On Linux search for: **Terminal**
3. On MacOS search for: **Terminal**.



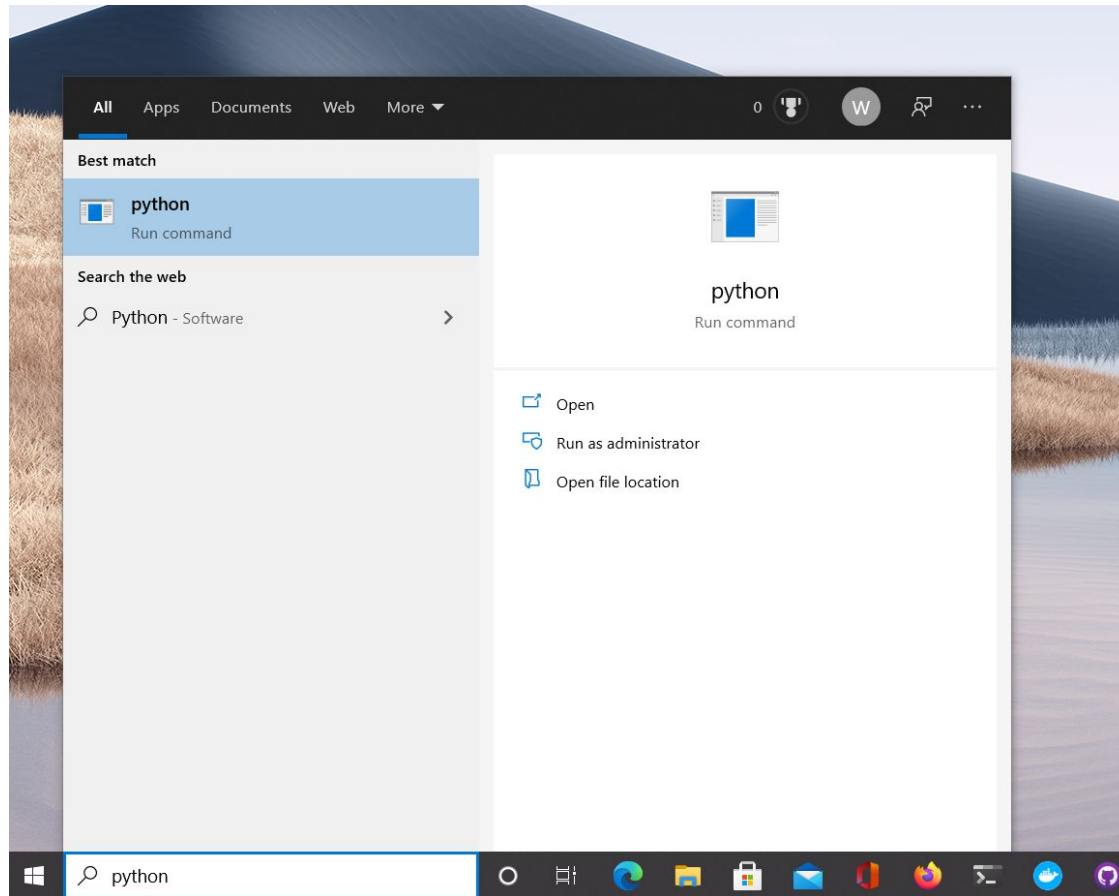
The image shows two side-by-side terminal windows. The left window is a standard Windows Command Prompt (cmd.exe) with a black background and white text. It displays the Microsoft Windows version 10.0.17134.0 copyright notice and the current directory C:\Windows\system32. The right window is Windows PowerShell with a blue background and white text. It displays the PowerShell version 5.0.10586.16 copyright notice and the current directory C:\Users\wjgle.

```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.17134.0]
(c) 2017 Microsoft Corporation. All rights reserved.
C:\Windows\system32>cd C:\
C:\>

Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.
PS C:\Users\wjgle> Set-Location C:\
PS C:\>
```

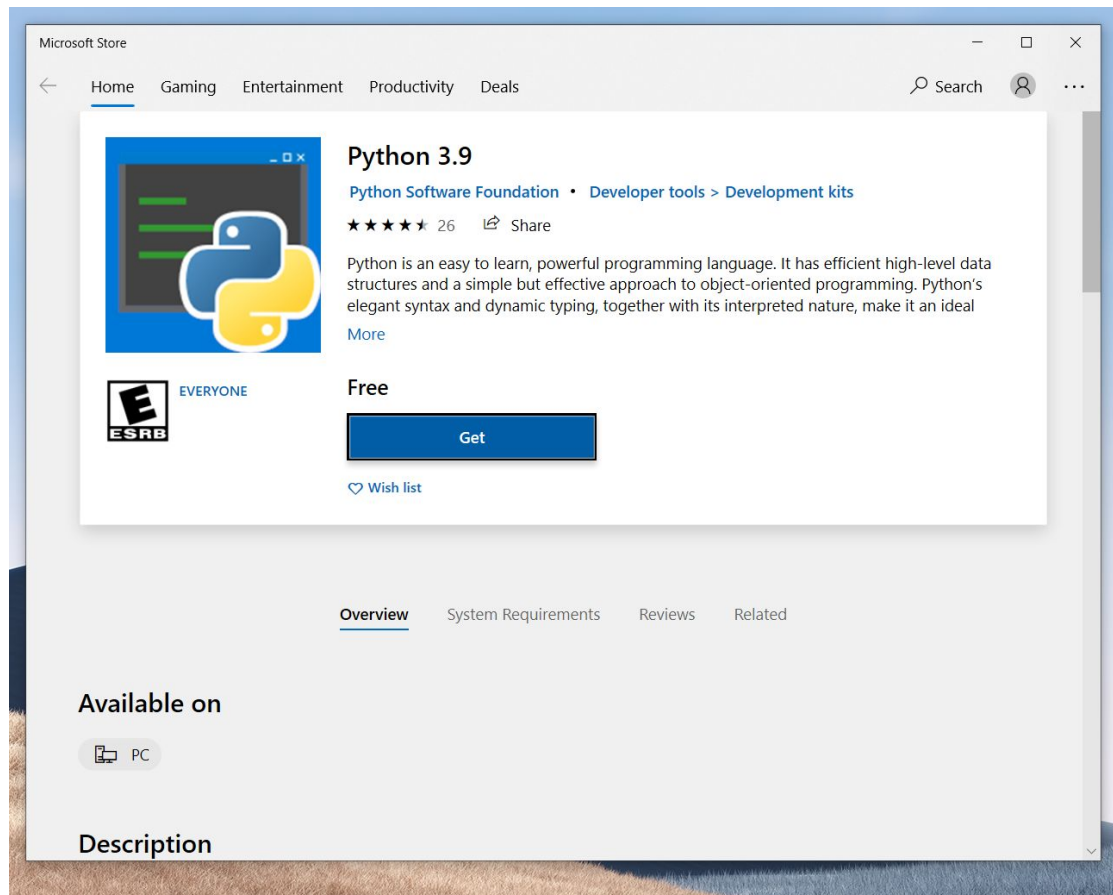

Installing Python: Windows

Click on the search bar at the bottom left of the screen and type **python**



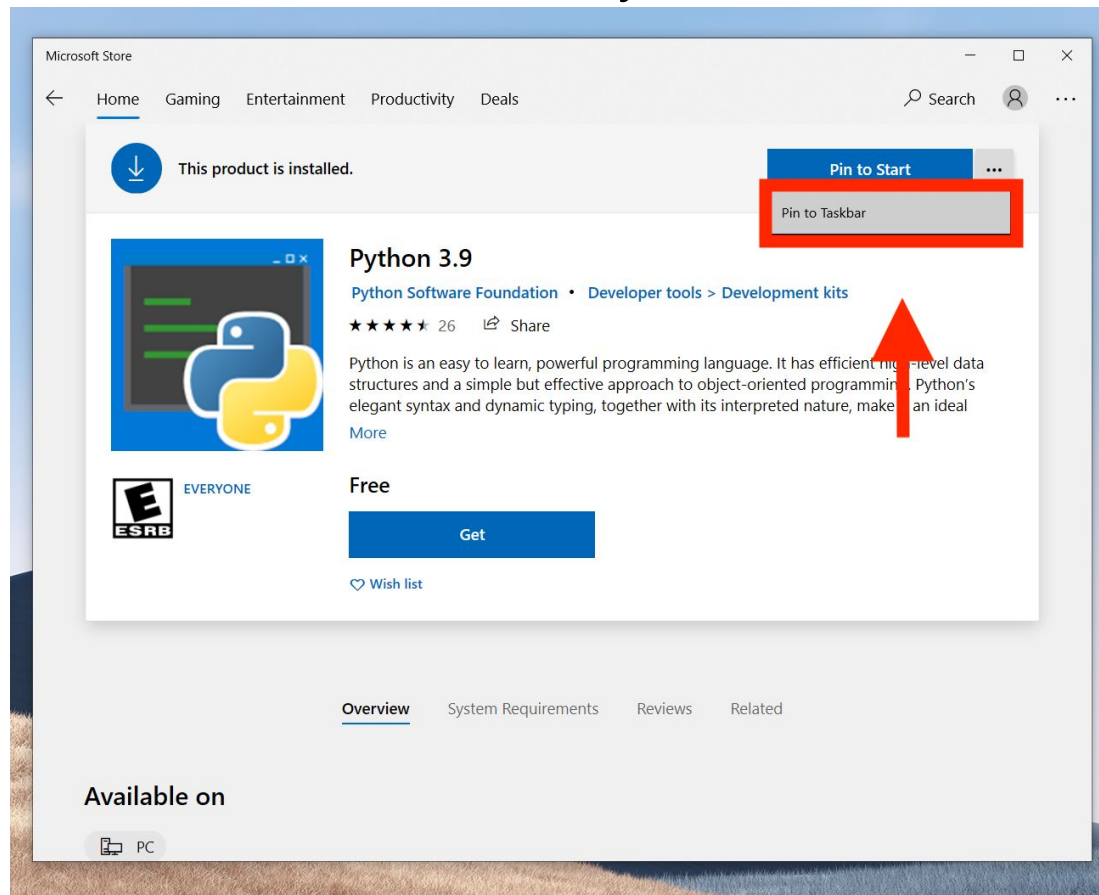
Installing Python: Windows

This automatically launches **Python 3.9** on the **Microsoft Store**. Click on the blue **“Get”** button to download it.



Installing Python: Windows

Once downloaded, click on the **three dots ...** after “**Pin to Start**” and click on “**Pin to Taskbar**” so it is always available



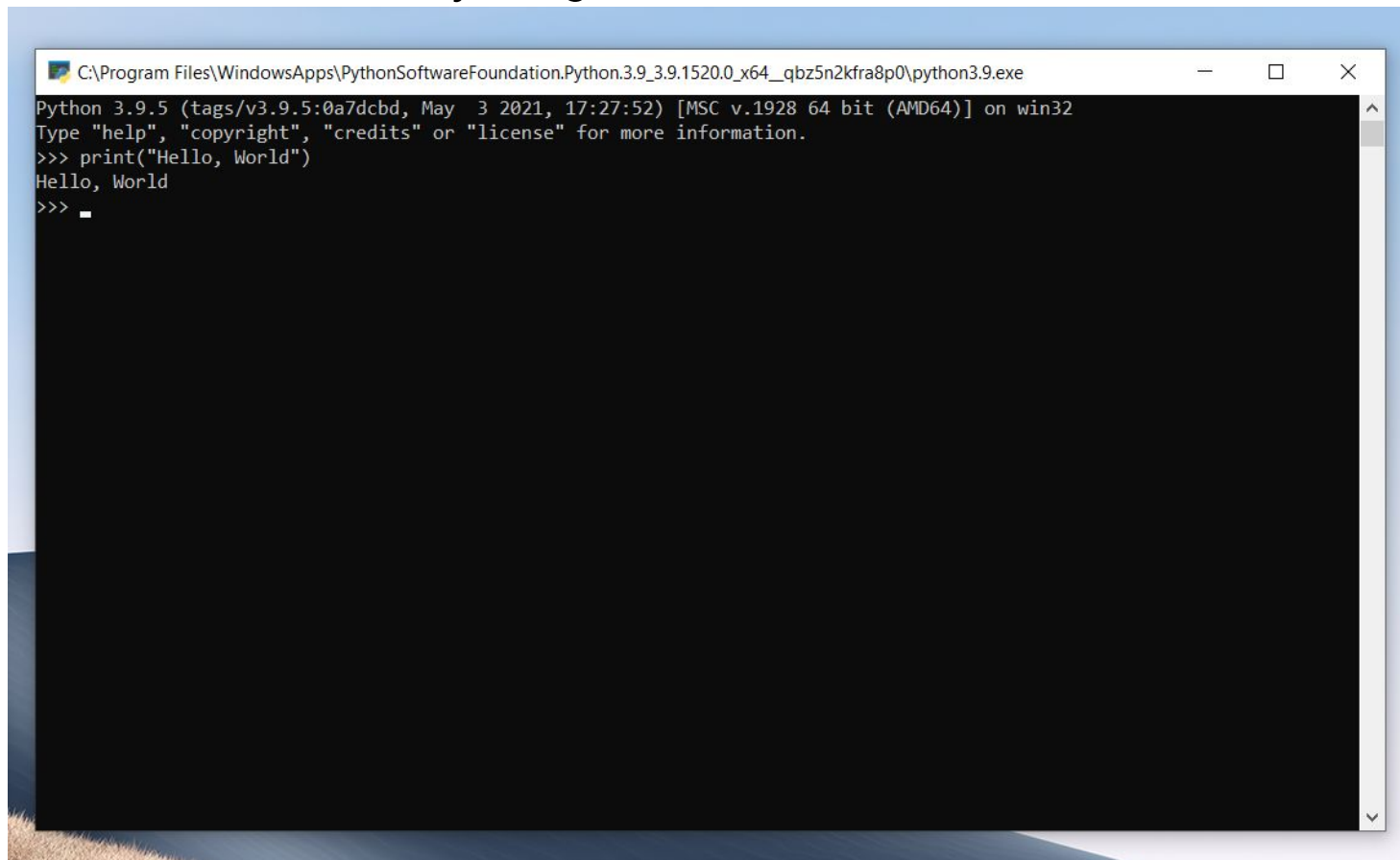
Installing Python: Windows

Click on the pinned **Python logo** on the bottom taskbar.



Installing Python: Windows

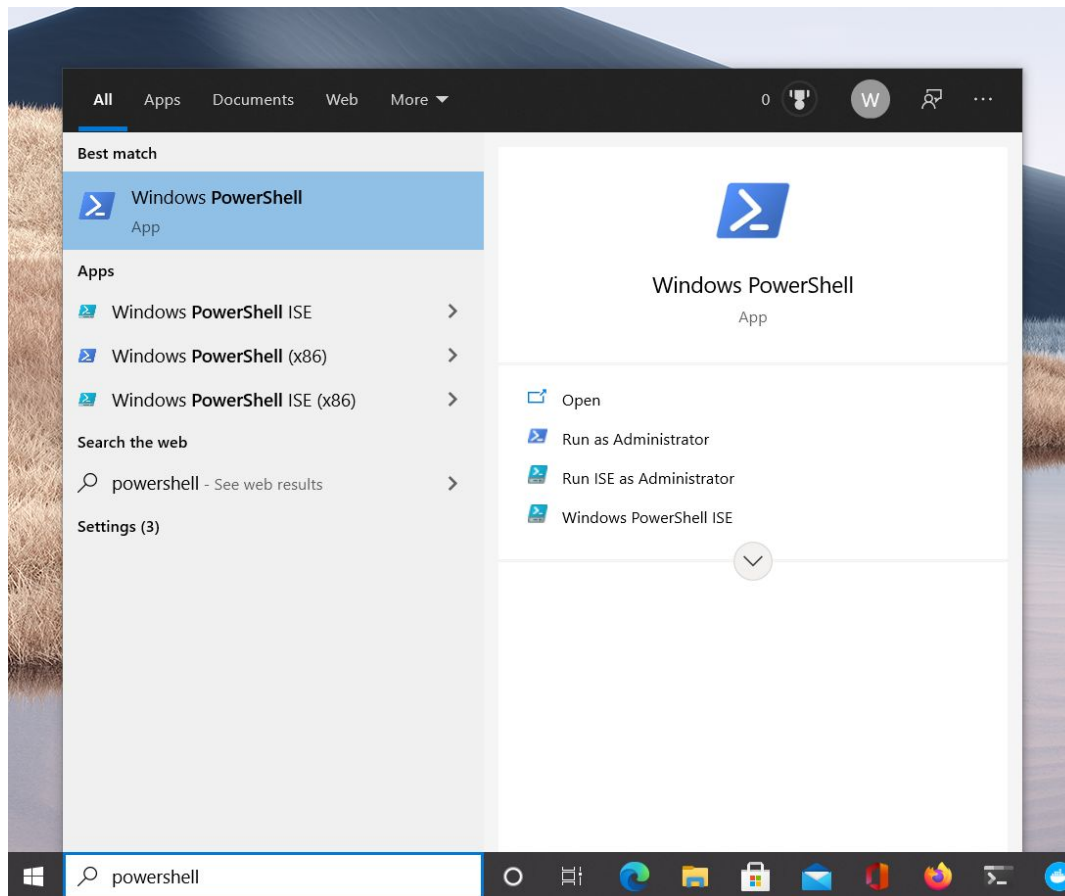
This opens up the **Python IDLE**. Try a simple `print("Hello, World")` command to confirm everything works:

A screenshot of a Python 3.9.5 IDLE window. The window title bar shows the file path: C:\Program Files\WindowsApps\PythonSoftwareFoundation.Python.3.9_3.9.1520.0_x64__qbz5n2kfra8p0\python3.9.exe. The main text area has a black background with white text. It displays the Python version and build information: Python 3.9.5 (tags/v3.9.5:0a7dcdb, May 3 2021, 17:27:52) [MSC v.1928 64 bit (AMD64)] on win32. Below this, it says 'Type "help", "copyright", "credits" or "license" for more information.' The prompt '>>>' is followed by the command 'print("Hello, World")', which has been executed, resulting in the output 'Hello, World'. The prompt '>>>' is followed by a cursor, indicating the next command to be entered.

```
C:\Program Files\WindowsApps\PythonSoftwareFoundation.Python.3.9_3.9.1520.0_x64__qbz5n2kfra8p0\python3.9.exe
Python 3.9.5 (tags/v3.9.5:0a7dcdb, May 3 2021, 17:27:52) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> print("Hello, World")
Hello, World
>>> _
```

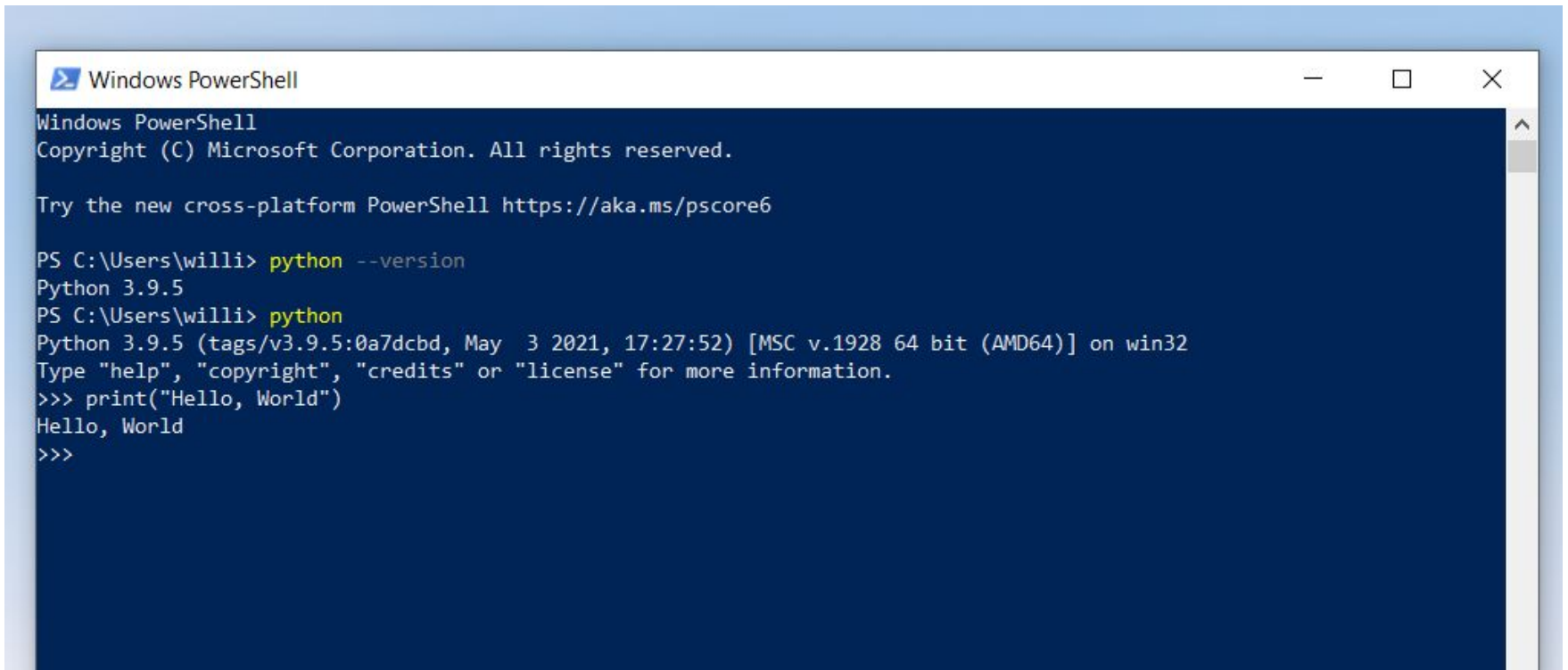
Using PowerShell

Type “PowerShell” in the **Start** Menu search bar in the lower left corner.



Using PowerShell

This opens up the Windows PowerShell terminal which has a dark blue background. Type `python --version` to confirm which version is installed and then the same `print("Hello, World")` command as before.

A screenshot of a Windows PowerShell terminal window. The window has a title bar with the text "Windows PowerShell" and standard Windows window controls (minimize, maximize, close). The terminal background is dark blue. The text inside the terminal is white. It shows the PowerShell prompt "PS C:\Users\willi>" followed by the command "python --version". The output is "Python 3.9.5". Then, the command "python" is entered, which outputs "Python 3.9.5 (tags/v3.9.5:0a7dcdb, May 3 2021, 17:27:52) [MSC v.1928 64 bit (AMD64)] on win32". Below this, it says "Type 'help', 'copyright', 'credits' or 'license' for more information." Then, the prompt changes to ">>>" and the command "print('Hello, World')" is entered. The output is "Hello, World". Finally, the prompt returns to ">>>".

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\willi> python --version
Python 3.9.5
PS C:\Users\willi> python
Python 3.9.5 (tags/v3.9.5:0a7dcdb, May 3 2021, 17:27:52) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> print("Hello, World")
Hello, World
>>>
```

Terminal Commands

Changing Directories

The command to set your working directory is **cd**

CD just means **change directory**.

cd

Command

\Users

Directory

Demo

Listing Directories

To view the contents of a folder, type **dir**, and press Enter.

dir

Command

Demo

```
D:\>cd /d C:\Windows
C:\Windows>cd /d D:\Digital_Citizen
D:\Digital_Citizen>dir
Volume in drive D is Data
Volume Serial Number is BC92-9461

Directory of D:\Digital_Citizen

10/16/2018  05:40 PM    <DIR>          .
10/16/2018  05:40 PM    <DIR>          ..
10/16/2018  05:39 PM                0 Digital_Citizen_Document.docx
10/16/2018  05:39 PM                0 Digital_Citizen_Image1.bmp
10/16/2018  05:39 PM                0 Digital_Citizen_Image2.jpg
10/16/2018  05:40 PM                0 Digital_Citizen_Presentation.pptx
10/16/2018  05:39 PM    <DIR>          ideas
10/16/2018  05:39 PM    <DIR>          tutorials
                  4 File(s)              0 bytes
                  4 Dir(s)  28,134,957,056 bytes free

D:\Digital_Citizen>_
```

Creating Directories

Let's create a directory name **Bootcamp** on your desktop. To do that, type **mkdir** and press Enter

mkdir

Command

bootcamp

Directory

Demo